

Fig. 1

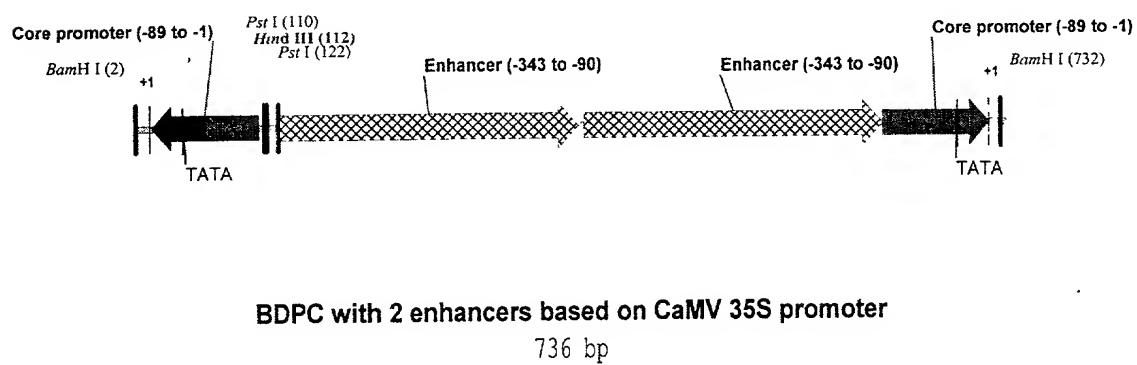


FIG. 2



BamHI

1 GGATCCAGCG TGTCCCTCTCC AAATGAAATG AACTCCTTA TATAGAGGAA GGGTCTTGC G AAGGATAGTG GGATTGTGCG
CCTAGGTCGC ACAGGAGAGG TTTACTTAC TTGAAGGAAT ATATCTCCTT CCCAGAACGC TTCCTATCAC CCTAACACGC

PstI HindIII PstI

81 TCATCCCTTA CGTCAGTGG A GATACTGCAG AAGCTTCTGC AGT GAGACTT TTCAACAAAAG GTAA TATATCG GGAAACCTCC
AGTAGGAAAT GCAGTCACCT CTATGACGTC TTCGAAGACG TCACTCTGAA AAGTTGTTTC CCATTATAGC CCTTTGGAGG

161 TCGGATTCCA TTGCCAGCT ATCTGTCACT TCATCAAAAG GACAGTAGAA AAGGAAGGTG GCACCTACAA ATGCCATCAT
AGCCTAAGGT AACGGGTCGA TAGACAGTGA AGTAGTTTC CTGTCATCTT TTCCCTCCAC CGTGGATGTT TACGGTAGTA

241 TCGCATAAAG GAAAGGCTAT CGTTCAAGAT GCCTCTGCCG ACAGTGGTCC CAAAGATGGA CCCCCACCCCA CGAGGAGCAT
ACGCTATTTC CTTCCGATA GCAAGTTCTA CGGAGACGGC TGTCACCAGG GTTTCTACCT GGGGGTGGGT GCTCCTCGTA

321 CGTGGAAAAA GAAGACGTT CAACCACGTC TTCAAAGCAA GTGGATTGAT GTGATTGCAG TGAGACTTT CAACAAAGGG
GCACCTTTT CTTCTGCAAG GTTGGTGCAG AAGTTTCGTT CACCTAACTA CACTAACGTC ACTCTGAAA GTTGTTC

401 TAATATCGGG AAACCTCCCT GGATCCATT GCCCAGCTAT CTGTCACTTC ATCAAAAGGA CAGTAGAAAA GGAAGGTGGC
ATTATAGCCC TTTGGAGGAG CCTAAGGTAA CGGGTCGATA GACAGTGAAG TAGTTTCCT GTCATCTTT CCTTCCACCG

481 ACCTACAAAT GCCATCATTG CGATAAAAGGA AAGGCTATCG TTCAAGATGC CTCTGCCGAC AGTGGTCCCA AAGATGGACC
TGGATGTTA CGGTAGTAAC GCTATTCCT TTCCGATAGC AAGTTCTACG GAGACGGCTG TCACCAGGGT TTCTACCTGG

561 CCCACCCACG AGGAGCATCG TGGAAAAAGA AGACGTTCCA ACCACGTCTT CAAAGCAAGT GGATTGATGT GATATCTCCA
GGGTGGGTGC TCCTCGTAGC ACCTTTTCT TCTGCAAGGT TGGTGCAGAA GTTCTGTTCA CCTAACTACA CTATAGAGGT

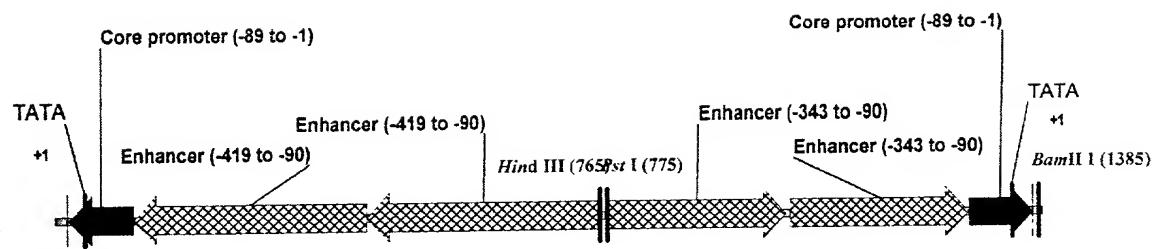
641 CTGACGTAAG GGATGACGCA CAATCCCCT ATCCCTCGCA AGACCCCTTC TCTATATAAG GAAGTTCATT TCATTGGAG
GACTGCATTC CCTACTGCGT GTTAGGGTGA TAGGAAGCGT TCTGGGAAGG AGATATATTC CTTCAAGTAA AGTAAACCTC

BamHI

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721 AGGACACGCT GGATCC Seq. ID No. 1  
TCCTGTGCGA CCTAGG Seq. ID No. 2

Fig. 3



BDPC with 4 enhancers based on CaMV 35S promoter

1389 bp

FIG. 4

## SnaBI

Seq. ID No. 3 1 TACGTACAGC GTGTCCTCTC CAAATGAAAT GAACTTCCTT ATATAGAGGA AGGGTCTTGC GAAGGGATA GT GGGATTGTGC  
 Seq. ID No. 4 ATGCATGTCG CACAGGAGAG GTTTACTTTA CTTGAAGGAA TATATCTCCT TCCCAGAACG CTTCTATCA CCCTAACACG

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81 GTCATCCCTT ACGTCAGTGG AGATATCACA TCAATCCACT TGCTTGAAG ACGTGGTGG AACGTCTTCT TTTTCCACGA  
 CAGTAGGGAA TGCAGTCACC TCTATAGTGT AGTTAGGTGA ACGAAACTTC TGACCCAACC TTGCAGAAGA AAAAGGTGCT

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161 TGCTCCTCGT GGGTGGGGGT CCACTTTGG GACCCTGTC GGCAAGAGGCA TCTTCACGA TGGCCTTCC TTTATCGCAA  
 ACGAGGAGCA CCCACCCCCA GGTAGAAACC CTGGTGACAG CGCTCTCCGT AGAAGTGTGCT ACCGGAAAGG AAATAGCGTT

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241 TGATGGCATT TGTAGGGAGCC ACCTTCCTT TCCACTATCT TCACAATAAA GTGACAGATA GCTGGGCAAT GGAATCCGAG  
 ACTACCGTAA ACATCCTCGG TGGAGGAAA AGGTGATAGA AGTGTATTT CACTGTCTAT CGACCCGTTA CCTTAGGCTC

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321 GAGGTTCCG GATATTACCC TTTGTTGAAA AGTCTCAATT GCCCTTGTT CTTCTGAGAC TGTATCTTG ATATTTTGG  
 CTCCAAAGGC CTATAATGGG AAACAACCTT TCAGAGTTAA CGGGAAACCA GAAGACTCTG ACATAGAAAC TATAAAACC

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401 AGTAGACAAG TGTGTCGTGC TCCACCATGT TGATTCACAT CAATCCACTT GCTTGAGA CGTGGTGGA ACGTCTTCTT  
 TCATCTGTTC ACACAGCACG AGGTGGTACA ACTAAGTGTAA GTTAGGTGAA CGAAACCTCT GCACCAACCT TGCAGAAGAA

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481 TTTCCACGAT GCTCCCTCGTG GGTGGGGTC CATCTTGGG ACCACTGTCG GCAGAGGCAT CTTCAACGAT GGCCTTCC  
 AAAGGTGCTA CGAGGAGCAC CCACCCCCAG GTAGAAACCC TGGTGACAGC CGTCTCCGTAA GAAGTTGCTA CGGGAAAGGA

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561 TTATCGCAAT GATGGCATT GTAGGAGCCA CCTTCCTTT CCACTATCTT CACAATAAG TGACAGATAG CTGGGCAATG  
 ATAGCGTTA CTACCGTAAA CATCCTCGGT GGAAGGAAAA GGTGATAGAA GTGTTATTT ACTGTCTATC GACCCGTAC

---

641 GAATCCGAGG AGGTTCCGG ATATTACCC TTGTTGAAA GTCTCAATTG CCCTTGTC TTCTGAGACT GTATCTTG  
 CTTAGGCTCC TCCAAAGGCC TATAATGGGAA ACAACCTTT CAGAGTTAAC GGGAAACCAAG AAGACTCTGA CATAGAAACT

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721 TATTTTGGA GTAGACAAGT GTGTCGTGCT CCACCATGTT GATAAGCTTC TGCAGTGAGA CTTTCACAA AAGGGTAATA  
 ATAAAAACCT CATCTGTTCA CACAGCACCA GGTGGTACAA CTATCGAAG ACGTCACTCT GAAAAGTTGT TTCCCATAT

---

801 TCGGGAAACC TCCTCGGATT CCATTGCCA GCTATCTGTC ACTTCATCAA AAGGACAGTA GAAAAGGAAG GTGGCACCTA  
 AGCCCTTGG AGGAGCCTAA GTAACGGGT CGATAGACAG TGAAGTAGTT TTCTGTCTAT CTTTCCTTC CACCGTGGAT

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881 CAAATGCCAT CATTGCGATA AAGGAAAGGC TATCGTTCAA GATGCCCTG CCGACAGTGG TCCCAAAGAT GGACCCCCAC  
 GTTTACGGTA GTAACGCTAT TTCTTTCCG ATAGCAAGTT CTACGGAGAC GGCTGTCAAC AGGGTTCTA CCTGGGGTG

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961 CCACGAGGAG CATCGTGGAA AAAGAAGACG TTCCAACAC GTCTTCAAAG CAAGTGGATT GATGTGATTG CAGTGAGACT  
 GGTGCTCTC GTAGCACCTT TTTCTCTGC AAGGTTGGT CAGAAGTTTC GTTCACCTAA CTACACTAAC GTCACTCTGA

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1041 TTCAACAAA GGGTAATATC GGGAAACCTC CTCGGATTCC ATTGCCAGC TATCTGTAC TTCATCAAAA GGACAGTAGA  
 AAAGTTGTTT CCCATTATAG CCCTTGAG GAGCCTAAGG TAACGGGTG ATAGACAGTG AAGTAGTTT CCTGTCTATC

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1121 AAAGGAAGGT GGCACCTACA AATGCCATCA TTGCGATAAA GGAAAGGCTA TCGTTCAAGA TGCCTCTGCC GACAGTGGTC  
 TTCTCTTCA CCGTGGATGT TTACGGTAGT AACGCTATTT CCTTCCGAT AGCAAGTCT ACAGGAGACGG CTGTCACCGAG

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1201 CCAAAGATGG ACCCCCCACCC ACGAGGAGCA TCGTGGAAAA AGAAGACGTT CCAACCACGT CTCAAAGCA AGTGGATTGA  
 GGTTTCTACC TGGGGGTGGG TGCTCCTCGT AGCACCTTT TCTTCTGCAA GTTGGTGCA GAAGTTCTGTT TCACCTAACT

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1281 TGTGATATCT CCACTGACGT AAGGGATGAC GCACAATCCC ACTATCCTTC GCAAGACCT TCTCTATAT AAGGAAGTTC  
 ACACATATAGA GGTGACTGCA TTCCCTACTG CGTGTAGGG TGATAGGAAG CGTTCTGGGA AGGAGATATA TTCTCTCAAG

Fig. 5

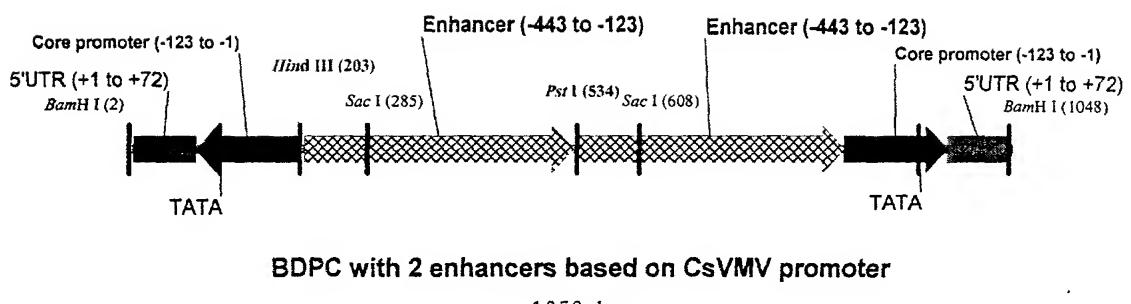


Fig. 6

BamHI

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1 GGATCCACAA ACTTACAAAT TTCTCTGAAG TTGTATCCTC AGTACTTCAGA AGAAAATAGC TTACACCAAA TTTTTCTTG
CCTAGGTGTT TGAATGTTA AAGAGACTTC AACATAGGAG TCATGAAGTT TCTTTATCG AATGTGGTTT AAAAAAGAAC
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81 TTTTCACAAA TGCGGAACCTT GGTCCTTAT ATAGAAAAC TCAAGGGCAA AAATGACAGC GAAAAATAAAAGGATAAG  
AAAAGTGGTT ACGGCTTGAA CCAAGGAATA TATCCTTTG AGTCCCCTT AGTTACTGTGC CTTTTATAT TTTCTTATTTC

HindIII

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161 TAGTGGGGAA TAAGATTCCCT TTGTGATAAG GTTACTTCC GAAGCTTCCA GAAGGTAATT ATCCAAGATG TAGCATCAAG
ATCACCCCT ATTCTAAGGA AACACTATTCA CAATGAAGG CTTCGAGGT CTTCCATTAA TAGGTCTAC ATCGTAGTTC

SacI

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241 AATCCAATGT TTACGGAAA AACTATGGAA GTATTATGTG AGCTCAGCAA GAAGCAGATC AATATGCGGC ACATATGCAA  
TTAGGTACA AATGCCCTT TTGATACTT CATAATACAC TCGAGTCGTT CTTCGTCTAG TTATACGCCG TGTATACTT  
321 CCTATGTCA AAAATGAAGA ATGTACAGAT ACAAGATCCT ATACTGCCAG AATACGAAGA AGAATACGTA GAAATTGAAA  
GGATACAAGT TTTTACTTCT TACATGTCTA TGTTCTAGGA TATGACGGTC TTATGCTTCT TCTTATGCAT CTTTAACCTT  
401 AAGAAGAACC AGGCGAAGAA AAGAATCTTG AAGACGTAAG CACTGACGAC AACAAATGAAA AGAAGAAGAT AAGGTCGGTG  
TTCTTCTTGG TCCGCTTCTT TTCTTAGAAC TTCTGCATTC GTGACTGCTG TTGTTACTTT TCTTCTTCTA TTCCAGGCCAC

PstI

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481 ATTGTGAAAG AGACATAGAG GACACATGTA AGGTGGAAAA TGTAAGGGCT GCAGAAGGTA ATTATCCAAG ATGTAGCATIC
TAAACATTTC TCTGTATCTC CTGTGTACAT TCCACCTTT ACATCCCCGA CGTCTTCCAT TAATAGGTTACATCGTAG

SacI

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561 AAGAATCCAA TGTTACGGG AAAAACTATG GAAGTATTAT GTGAGCTCAG CAAGAAGCAG ATCAATATGC GGCACATATG  
TTCTTAGGTT ACAATGCCCTT TTGATACTC CTTCTACATA CACTCGAGTC GTTCTCGTC TAGTTATACG CCGTGTATAC  
641 CAACCTATGT TCAAAAATGA AGAATGTACA GATACAAGAT CCTATACTGC CAGAATACGA AGAAGAATAC GTAGAAATTG  
GTTGGATACA AGTTTTACT TCTTACATGT CTATGTCTA GGATATGACG GTCTTATGCT TCTTCTTATG CATCTTTAAC  
721 AAAAGAAGA ACCAGGCAGA GAAAAGAATC TTGAAGACGT AAGCACTGAC GACAACAATG AAAAGAAGAA GATAAGGTCC  
TTTTCTTCT TGGTCCGCTT CTTTCTTAG AACTCTGCA TTGACTGACTG CTGTTGTTAC TTTTCTTCTT CTATTCCAGC

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801 GTGATTGTGA AAGAGACATA GAGGACACAT GTAAGGTGGA AAATGTAAGG GCGGAAAGTA ACCTTATCAC AAAGGAATCT
CACTAACACT TTCTCTGTAT CTCCTGTGTA CATTCCACCT TTACATTCC CGCCTTCTAT TGGAAATAGTG TTCTTCTAGA

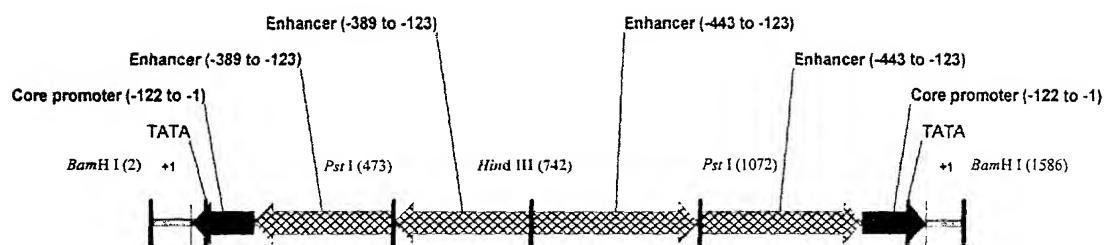
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881 TATCCCCAC TACTTATCCT TTTATATTT TCCGTGTCAT TTTGCCCTT GAGTTTCCT ATATAAGGAA CCAAGTTCGG  
ATAGGGGGTG ATGAATAGGA AAATATAAAA AGGCACAGTA AAAACGGAA CTAAAAGGA TATATTCTT GGTTCAAGGCC

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961 CATTGTGAA AACAAAGAAAA AATTGGTGT AAGCTATTTT CTTGAAGTA CTGAGGATAC AACTTCAGAG AAATTGTAA
GTAAACACTT TTGTTCTTT TAAACCACA TTGATAAAA GAAACTTCAT GACTCCTATG TTGAAAGTCTC TTTAAACATT

BamHI

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1041 GTTTGTGGAT CC Seq. ID No. 5  
CAACACACCTA GG Seq. ID No. 6

Fig. 7



**BDPC with 4 enhancers based on CsVMV promoter**

1590 bp

FIG. 8

BamHI

1 GGATCCACAA ACTTACAAT TTCTCTGAAG TTGTATCCTC AGTACTCAA AGAAAATAGC TTACACCAAA TTTTTCTTG  
CCTAGGTGTT TGAATGTTA AAGAGACTTC AACATAGGAG TCATGAAGTT TCTTTATCG AATGTGGTT AAAAAGAAC

81 TTTTACACAA TGCCGAACCTT GGTTCTTAT ATAGGAAAC TCAAGGGCAA AAATGACAGC GAAAAATATA AAAGGATAAG  
AAAAGTGGTT ACGGCTTGAA CCAAGGAATA TATCCTTTG AGTCCCGTT TTTACTGTGC CTCTTATAT TTCTCTATTG

161 TAGGGGGGA TAAGATTCTT TTGTGATAAG GTTACTTTCC GCCCTACAT TTCCACCTT ACATGTGTCC TCTATGTCTC  
ATCACCCCCCT ATTCTAAGGA AACACTATTG CAATGAAAGG CGGGATGTA AAAGGTGGAA TGTACACAGG AGATACAGAG

241 TTTCACAATC ACCGACCTTA TCTTCTTCTT TTCATTGTTG TCGTCAGTGC TTACGTCTC AAGATTCTT TCTTCGCCCTG  
AAAGTGTAG TGGCTGGAAT AGAAGAAGAA AAGTAACAAAC AGCAGTCACG AATGCAGAAG TTCTAAGAAA AGAACGGGAC

321 GTTCTTCTT TTCAATTCTT ACGTATTCTT CTTCGTATTG TGGCAGTATA GGATCTTGTG TCTGTACATT CTTCATTTT  
CAAGAAGAAA AAGTTAAAGA TGCATAAGAA GAAGCATAAG ACCGTATAT CCTAGAACAT AGACATGTAAGAAGTAAAAA

SacI PstI

401 GAACATAGGT TGCATATGTG CCGCATATTG ATCTGCTTCT TGCTGAGCTC ACATAATACT TCCATAGCTG CAGCCCTTAC  
CTTGTATCCA ACGTATAACAC GGCGTATAAC TAGACGAAGA ACGACTCGAG TGTATTATGA AGGTATCGAC GTGGAAATG

481 ATTTCCACC TTACATGTGT CCTCTATGTC TCTTCACAA TCACCGACCT TATCTCTTC TTTCTATTGT TGTCGTCAGT  
TAAAAGGTGG AATGTACACA GGAGATACAG AGAAAGTGGT AGTGGCTGGA ATAGAAGAAG AAAAGTAACA ACAGCAGTCA

561 GCTTACGTCT TCAAGATTCTT TTCTTCGCC TGGTTCTTCTT TTTCAATTCTT ACAGTATTG TTCTTCGTAT TCTGGCAGTA  
CGAATGCAGA AGTCTAAGA AAAGAAGCGG ACCAAGAAGA AAAAGTTAAA GATGCATAAG AAGAACATA AGACCGTCAT

SacI

641 TAGGATCTTG TATCTGTACA TTCTTCATTT TTGAACATAG GTTGCATATG TGCCGCATAT TGATCTGCTT CTTGCTGAGC  
ATCCTAGAAC ATAGACATGT AAGAAGTAAA AACTTGTATC CAACGTATAC ACGGCGTATA ACTAGACGAA GAACGACTCG

SacI HindIII

721 TCACATAATA CTTCCATAGG AAGCTTCAGA AGGTAATTAT CCAAGATGTA GCATCAAGAA TCCAATGTTT ACGGGAAAAAA  
AGTGTATTAT GAAGGTATCC TTCGAAGTCT TCCATTAATA GGTTCTACAT CGTAGTTCTT AGGTTACAAA TGCCCTTTT

SacI

801 CTATGGAAGT ATTATGTGAG CTCAGCAAGA AGCAGATCAA TATGCCGCAC ATATGCAACC TATGTCAAA AATGAAGAAC  
GATACCTCA TAATACACTC GAGTCGTTCT TCGTCTAGTT ATACGCCGTG TATACTGGTGG ATACAAGTTT TTACTCTTA

881 GTACAGATAC AAGATCTAT ACTGCCAGAA TACGAAGAAG AATACGTAGA AATTGAAAAA GAAGAACCGAG CGAAAGAAAA  
CATGTCTATG TTCTAGGATA TGACGGTCTT ATGCTTCTTC TTATGCATCT TAACTTTTT CTTCTGGTC CGCTTCTTT

961 GAATCTTGAA GACGTAAGCA CTGACGACAA CAATGAAAAG AAGAAGATAA GGTCGGTGAT TGTGAAAGAG ACATAGAGGA  
CTTAGAACCTT CTGCATTGCT GACTGCTGTT GTTACTTTTC TTCTCTTATT CCAGCCACTA ACACCTTCTC TGTATCTCCT

PstI

1041 CACATGTAAG GTGGAAAATG TAAGGGCTGC AGAAGGTAAT TATCCAAGAT GTAGCATCAA GAATCCAATG TTTACGGGAA  
GTGTACATTC CACCTTTAC ATTCCCGACG TCTTCCATTA ATAGGTTCTA CATCGTAGTT CTTAGGTTAC AAATGCCCTT

SacI

1121 AAACATATGGA AGTATTATGT GAGCTCAGCA AGAAGCAGAT CAATATGCGG CACATATGCA ACCTATGTC AAAAATGAAG  
TTTGATACCT TCATAATACA CTCGAGTCGT TCTTCGTCTA GTTATACGCC GTGTATACGT TGGATACAAG TTTTACTTC

1201 AATGTACAGA TACAAGATCC TATACTGCCA GAATACGAAG AAGAACATCGT AGAAATTGAA AAAGAAGAAC CAGGCAGAAGA  
TTACATGTCT ATGTTCTAGG ATATGACGGT CTTATGCTTC TTCTTACTT TTTCTTCTTG GTCCGCTTCT

1281 AAAGAACATCTT GAAGACGTAAGC GCACTGACGA CAACAATGAA AAGAACATAGA TAAGGTCGGT GATTGTGAAA GAGACATAGA  
TTTCTTAGAA CTTCTGCATT CGTGAATGCT GTTGTACTT TTCTTCTTCT ATTCCAGCCA CTAACACTTT CTCTGTATCT

1361 GGACACATGT AAGGTGGAAA ATGTAAGGGC GGAAAGTAAC CTTATCACAA AGGAATCTTA TCCCCACTA CTTATCCTT  
CCTGTGTACA TTCCACCTT TACATTCCCG CCTTTCATG GAATAGTGT TCCCTAGAAT AGGGGGTGT GAATAGGAAA

1441 TATATTTTC CGTGTCAATT TTGCCCTTGA GTTTTCTTAT ATAAGGAACC AAGTTGGCA TTTGTGAAAAA CAAGAAAAAA  
ATATAAAAAG GCACAGTAAA AACGGGAAC CAAAAGGATA TATTCCCTGG TTCAAGCCGT AAACACTTTT GTTCTTTTT

BamHI

1521 TTTGGGTGAA GCTATTTCT TTGAAGTACT GAGGATACAA CTTCAGAGAA ATTTGTAAGT TTGGGGATCC Seq. ID No. 7  
AAACCACATT CGATAAAAGA AACTTCATGA CTCCTATGTT GAAGTCTCTT TAAACATTCA AACACCTAGG Seq. ID No. 8

Fig. 9

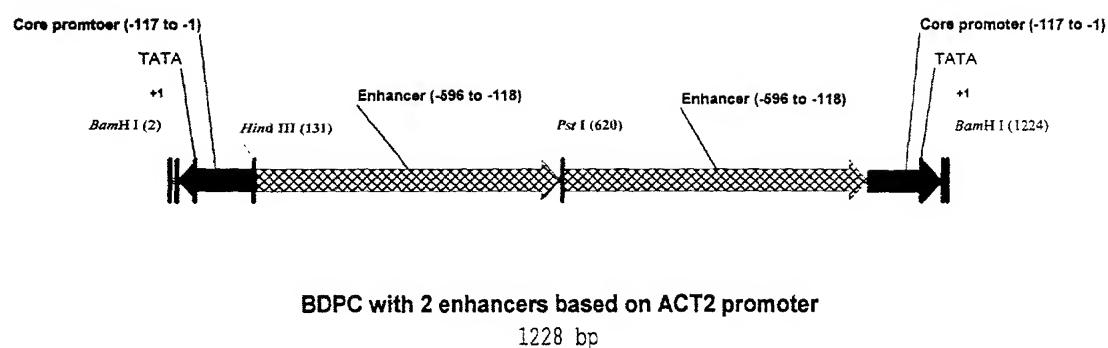


FIG. 10

BamHI

1 GGATCCTTGT TTTCAAAGCG GAGAGGAAAA TATATGAATT TATATAGGCG GTTTATCTC TTACAACCTT ATTTTCGGCC  
CCTAGGAACA AAAGTTCGC CTCTCCTTT ATATACTTAA ATATATCCGC CCAAATAGAG AATGTTGAAA TAAAAGCCGG

HindIII

81 TTTCAAAAAA ATAATTAAAAA TCGACAGACA CGAACATT CGACCACAGA AGCTTCAACT ATTTTATGT ATGCAAGAGT  
AAAGTTTTT TATTAATTAGT AGCTGTCTGT GCTTAGTAA GCTGGTGTCT TCGAAGTTGA TAAAATACA TACGTTCTCA

161 CAGCATATGT ATAATTGATT CAGAACGTT TTGACGAGTT CGGATGTAGT AGTAGCCATT ATTTAATGTA CATACTAAC  
GTCGTATACA TATTAACTAA GTCTAGCAA AACTGCTAA GCCTACATCA TCATCGGTAA TAAATTACAT GTATGATTAG

241 GTGAATAGTG ATATGATGAA ACATTGTATC TTATTGTATA AATATCCATA AACACATCAT GAAAGACACT TTCTTCAGC  
CACTTATCAC TATACTACTT TGTAACATAG AATAACATAT TTATAGGTAT TTGTGTAGTA CTTCTGTGA AAGAAAGTGC

321 GTCTGAATTA ATTATGATAC AATTCTAATA GAAAACGAAT TAAATTACGT TGAATTGTAT GAAATCTAAT TGAACAAGCC  
CAGACTTAAT TAATACATG TTAAGATTAT CTTTGCTTA ATTTAATGCA ACTAACATA CTTAGATTAA CTGTGTCGG

401 AACCACGACG ACGACTAACG TTGCGCTGGAT TGACTCGGTT TAAGTTAACCC ACTAAAAAAA CGGAGCTGTC ATGTAACACG  
TTGGTGCTGC TGCTGATTGC AACGGACCTA ACTGAGCCAA ATTCAATTGG TGATTTTTT GCCTCGACAG TACATTGTGC

481 CGGATCGAGC AGGTACACAGT CATGAAGCCA TCAAAGCAAA AGAACTAAC CAAAGGGCTGA GATGATTAAT TAGTTAAAAA  
GCCTAGCTCG TCCAGTGTCA GTACTCGGT AGTTTCGTT TCTTGATTAG GTTCCGACT CTACTAATTA ATCAAATTTT

PstI

561 ATTGTTAAC ACGAGGGAAA AGGCTGTCTG ACAGCCAGGT CACGTTATCT TTACCTGCAG CAACTATTT TATGTATGCA  
TAATCAATTG TGCTCCCTT TCCGACAGAC TGCGGTCCA GTGCAATAGA AATGGACGTC GTTGATAAAA ATACATACGT

641 AGAGTCAGCA TATGTATAAT TGATTCAGAA TCGTTTGAC GAGTCGGAT GTAGTAGTAG CCATTATTTA ATGTACATAC  
TCTCAGTCGT ATACATATTA ACTAAGTCTT ACCAAAAGCTA CTCAAGCCTA CATCATCATC GGTAAATAAT TACATGTATG

721 TAATCGTGAATAGAACATT GTATCTTATT GTATAAATAT CCATAAACAC ATCATGAAAG ACACTTTCTT  
ATTAGCACTT ATCACTATAC TACTTGTAA CATAGAATAA CATATTATA GGTATTTGTG TAGTACTTTC TGTGAAAGAA

801 TCACGGTCTG AATTAATTAT GATACAATTG TAATAGAAAA CGAATTAAT TACGTTGAAT TGTATGAAAT CTAATTGAAAC  
AGTGCCAGAC TTAATTAAATA CTATGTTAAG ATTATCTTT GCTTAATTAA ATGCAACTTA ACATACTTTA GATTAACCTTG

881 AAGCCAACCA CGACGACGAC TAACGTTGCC TGGATTGACT CGGTTTAAGT TAACCACTAA AAAAACGGAG CTGTCATGTA  
TTCGGTTGGT GCTGCTGCTG ATTGCAACGG ACCTAAGTGA GCCAAATTCA ATTGGTGATT TTTTGCCCTC GACAGTACAT

961 ACACGCGGAT CGAGCAGGTC ACAGTCATGA AGCCATCAA GCAAAGAAC TAATCCAAGG GCTGAGATGA TTAATTAGTT  
TGTGCGCTA GCTCGTCCAG TGTCAGTACT TCGGTAGTT CGTTTCTTG ATTAGGTTCC CGACTCTACT ATTAATCAA

1041 TAAAAATTAG TTAACACGAG GGAAAAGGCT GTCTGACAGC CAGGTACGT TATCTTACCC TGTGGTCGAA ATGATTGTCG  
ATTTTTAATC AATTGTGCTC CCTTTCCGA CAGACTGTGCG TCCAGTGTCA ATAGAAATGG ACACCAGCTT TACTAACAC

1121 TCTGTCGATT TTAATTATTT TTTGAAAGG CCGAAAATAA AGTTGTAAGA GATAAACCCG CCTATATAAA TTCATATATT  
AGACAGCTAA AATTAATAAA AAAACTTCC GGCTTTTATT TCAACATTCT CTATTGGGC GGATATATT AAGTATATAA

BamHI

~~~~~ Seq. ID No. 9

1201 TTCCCTCTCCG CTTTGAAAC AAGGATCC Seq. ID No. 10
AAGGAGAGGC GAAACTTTG TTCCCTAGG Seq. ID No. 10

Fig. 11

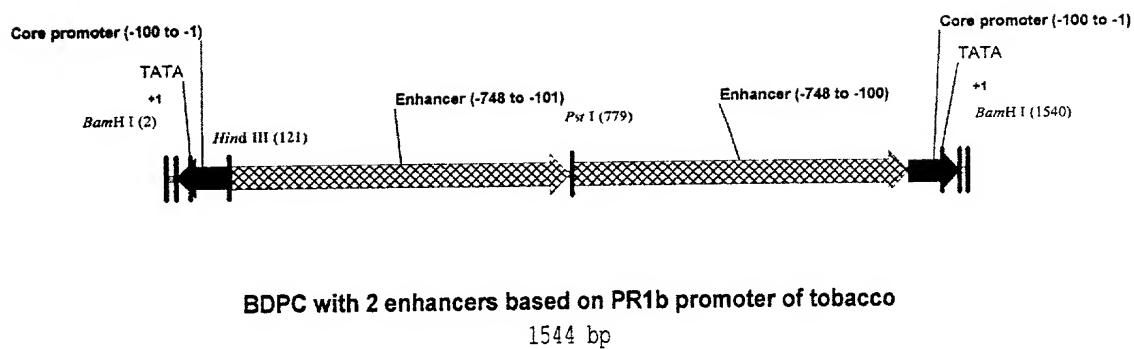


FIG. 12

BamHI

1 GGATCCTTT GGGTTTGGT GAGAAACAAG GAATAGTATG GATGGGTTT AATAGGGAAT AAGAGTGAA AAGTCGCAA
CCTAGGAAA CCCAAACCA CTCTTGTTC CTTATCATAC CTACCCAAA TTATCCCTA TTCTCAACTT TTCAGACGTT

HindIII

81 TTTGTAAAAG AAAAAAATTG GAAAGTCACA TGTTAGCAGA AGCTTCAGAC TCATTAACCT AAAAGAAGAT ATAGACTCAT
AACATTTTC TTTTTTAAC CTTTCAGTGT ACAATCGTCT TCGAAGTCTG AGTAATTGAA TTTTCTCTA TATCTGAGTA

161 TAACCTAAAA GAAGATATAG ATTCCAACAC AAGTCAAA TTCAATTCAGC TCAATCTGG CTAAATTCT GAACATCAAT
ATTGAATTTC CTTCTATATC TAAGGTGTG TTCAAGTTT AAGTATTGC AGTTAGAAC GATTTAAAGA CTGTAGTTA

241 GCATTCCTTT AAAATATAGA TAATAAGTTA GGATGTTGTC ACTTTCTAA AGCATATTCC GACTGAGTCT GGTAGAACATCT
CGTAAGGAAA TTTTATATCT ATTATTCAAT CCTACAACAG TGAAAGAATT TCGTATAAGG CTGACTCAGA CCATCTTAGA

321 CATAAACTTT AGGCCTTATC TCTTCATTA GGCAATTACT TACCTCCGCT CTACTTTAAG AAAATTCAAT GGAGTACACC
GTATTTGAAA TCCGGAATAG AGAAGTTAAT CCGTTAATGA ATGGAGGCAGA GATGAAATT TTTTAAGTTA CCTCATGTGG

401 ATTATTAAGT TCATATAAAA ATAAAATTAT ATTAATTCTG TCTCTTGTG GTTCGCTCTA TCTTTTCTG TTTTCTGCT
TAATAATTCA AGTATATTTC TATTTAATA TAATTAAGAC AGAGAACAAAC CAAGCGAGAT AGAAAAAGAC AAAAGGACGA

481 TCAACCATAA CATATACAAG AACTACATTT TCCAAGCTAG ATATATCTAA CATGACTGAC TTTGAAATT TCTTTGCCA
AGTTGGTATT GTATATGTTC TTGATGTAAA AGGTTCGATC TATATAGATT GTACTGACTG AAACATTAA AGAAAACGGT

561 AGTAAAGAA AAAAAATGAT GTTATCCAAA TAATAAGAG AAAGAGCCCT AATGAAAAAA ATGATTACT ATTAGAGTTG
TCAATTCTT TTTTTACTA CAATAGTTT ATTATTCTC TTTCTCGGG A TACTTTTT TACTAAATGA TAATCTAAC

641 TTCAAGCTAAT CACATCAATT ATGGTTTCA TCAAGTATGA CTAATGGCGG CTCTTATCTC ACGTGATGTG ACATTGAAAT
AAGTCGATTA GTGTAGTAA TACCAAAAGT AGTCATAC GATTACCGCC GAGAATAGAG TGCACTACAC TGTAACTTTA

PstI

721 TCTTGACTT TAACACTAAT GTCATATGCT TTCAAAATTAA TAATCCGATA AAGCTGCAGA CTCATTAAC TAAAAGAAGA
AGAAAATGAA ATTGTGATTA CAGTATACGA AAGTTTAATT ATTAGGCTAT TCGACGCTCT GAGTAATTGA ATTTTCTCT

801 TATAGACTCA TTAACTAAA AGAAGATATA GATTCCAACA CAAGTCAAA ATTCAAAAC GTCAATCTG GCTAAATTTC
ATATCTGAGT AATTGAATT TCTTCTATAT CTAAGGTGTG GTTCAGTTT TAAGTATTG CAGTTAGAAC CGATTAAAG

881 TGAACATCAA TGCATTCTT TAAAATATAG ATAATAAGTT AGGATGTTGT CACTTTCTTA AAGCATATTC CGACTGAGTC
ACTTGAGTT ACGTAAGGAA ATTTTATATC TATTATTCAA TCCTACAACA GTGAAAGAAT TTGACTAAG GCTGACTCAG

961 TGGTAGAAC TCAAAACTT TAGGCCTTAT CTCTTCATT AGGCAATTAC TTACCTCCGC TCTACTTTAA GAAAATTCAA
ACCATCTTAG AGTATTGAA ATCCGGAATA GAGAAGTTA TCCGTTAATG AATGGAGGCG AGATGAAATT CTTTTAAGTT

1041 TGGAGTACAC CATTATTAAG TTCAATATAA AATAAAATTA TATTAATTCT GTCTCTIGTT GGTCGCTCT ATCTTTTCT
ACCTCATGTG GTAATAATTCA AAGTATATT TATTTTAAT ATAATTAAGA CAGAGAACAA CCAAGCGAGA TAGAAAAAGA

1121 GTTTCTGC TTCAACCATA ACATATACAA GAACTACATT TTCCAAGCTA GATATATCTA ACATGACTGA CTTGTAAAT
CAAAGGACG AAGTGGTAT TGTATATGTT CTTGATGTAA AAGGTCGAT CTATATAGAT TGTACTGACT GAAACATTAA

1201 TTCTTTGCC AAGTAAAGA AAAAAATGAT GTTATCCAA ATAATAAGA GAAAGAGCCC TAATGAAAAA ATGATTTC
AAGAAAACGG TTCAATTCTT TTTTTACT ACAATAGGTT TATTATTCT CTTTCTCGGG ATTACTTTT TTACTAAATG

1281 TATTAGAGTT GTTCAGCTAA TCACATCAAT TATGGTTTC ATCAAGTATG ACTAATGGCG GCTCTTATCT CACGTGATGT
ATAATCTCAA CAAGTCGATT AGTGTAGTTA ATACCAAAAG TAGTCATAC TGATTACCGC CGAGAATAGA GTGCACTACA

1361 GACATTGAAA TTCTTGACT TTAACACTAA TGTATGC TTTCAAATTA ATAATCCGAT AAAGTCTGCT AACATGTGAC
CTGTAACCTT AAGAAACTGA AATTGTGATT ACAGTATAACG AAAGTTAAC TATTAGGCTA TTTCAGACGA TTGTACACTG

1441 TTTCCAATTT TTTCTTTA CAAATTGCAG ACTTTCAAC TCTTATTCCC TATTAACCC CATCCATACT ATTCCTTGTT
AAAGGTTAAA AAAAGAAAAT GTTTAACGTC TGAAAAGTTG AGAATAAGGG ATAATTTGG GTAGGTATGA TAAGGAACAA

BamHI

1521 TCTCACCAAA ACCCAAAAGG ATCC Seq. ID No. 11
AGAGTGGTTT TGGTTTCC TAGG Seq. ID No. 12

**Figure 13. Physical Map of T-DNA Region of
Binary Vectors Containing a BDPC**

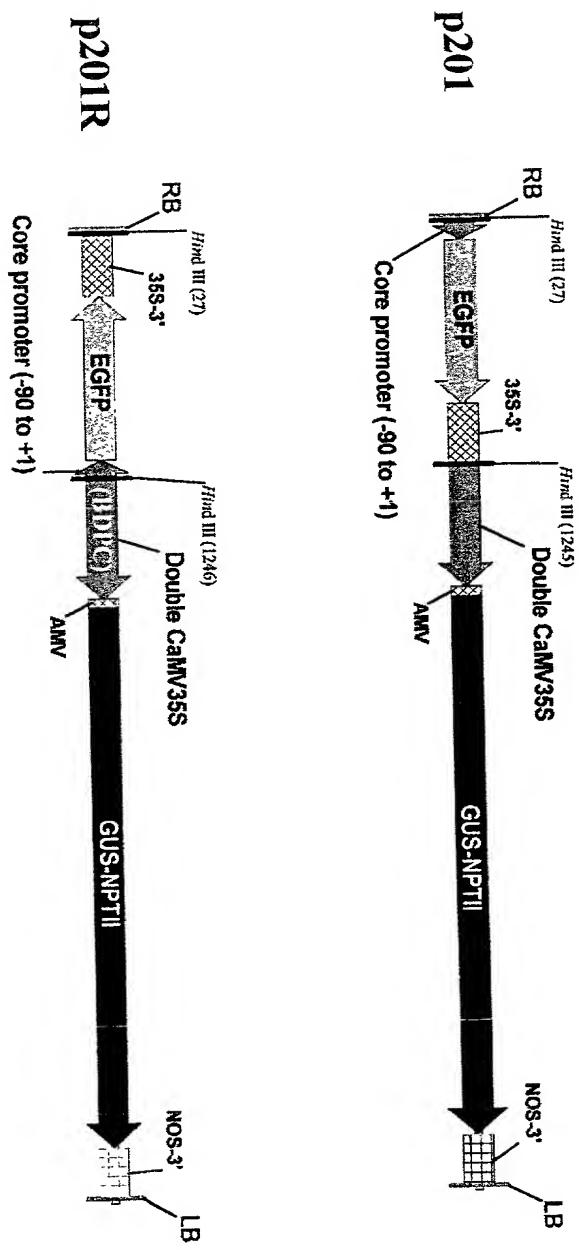


Figure 14. Transient GFP Expression in Grape SE (*Vitis vinifera* cv. Thompson Seedless) after Transformation Using Binary Vectors p201 and p201R

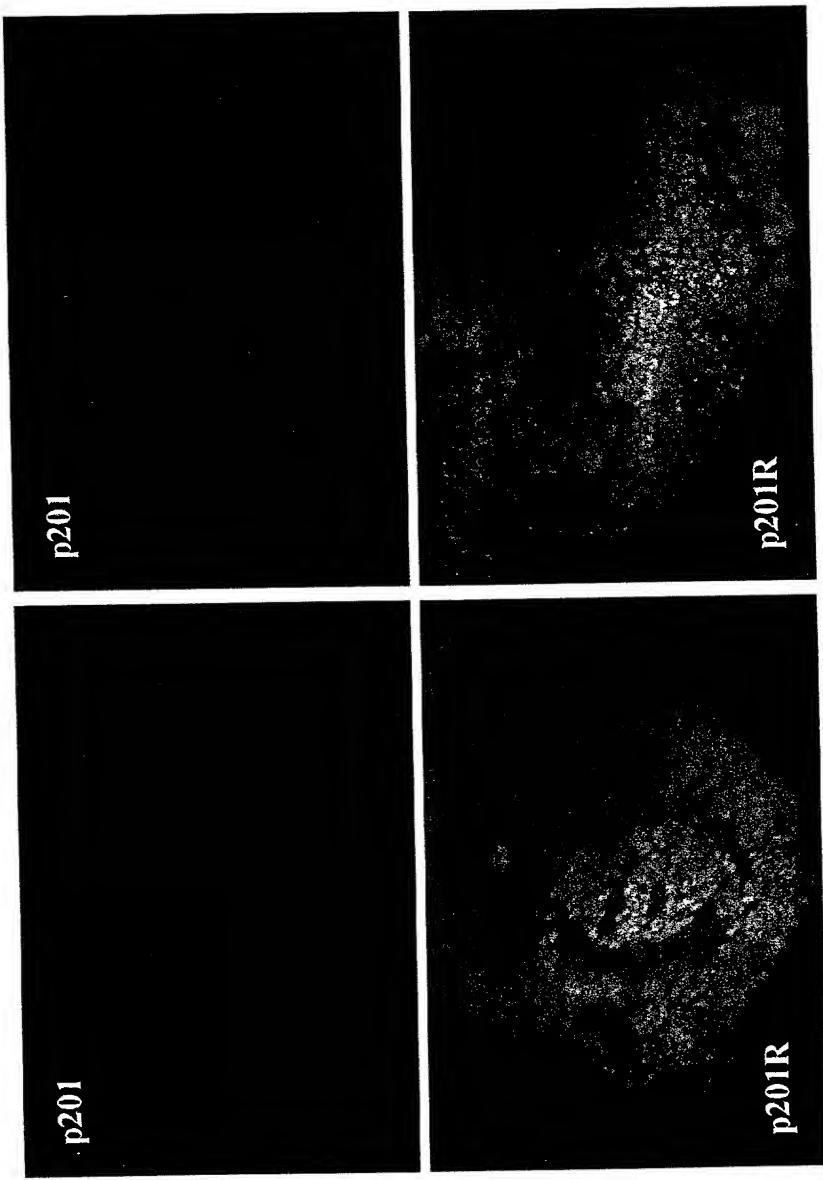


Figure 15. Transient GFP Expression Efficiency of Grape SE (*V. vinifera* cv. Thompson Seedless) after Transformation Using Binary Vectors p201 And p201R

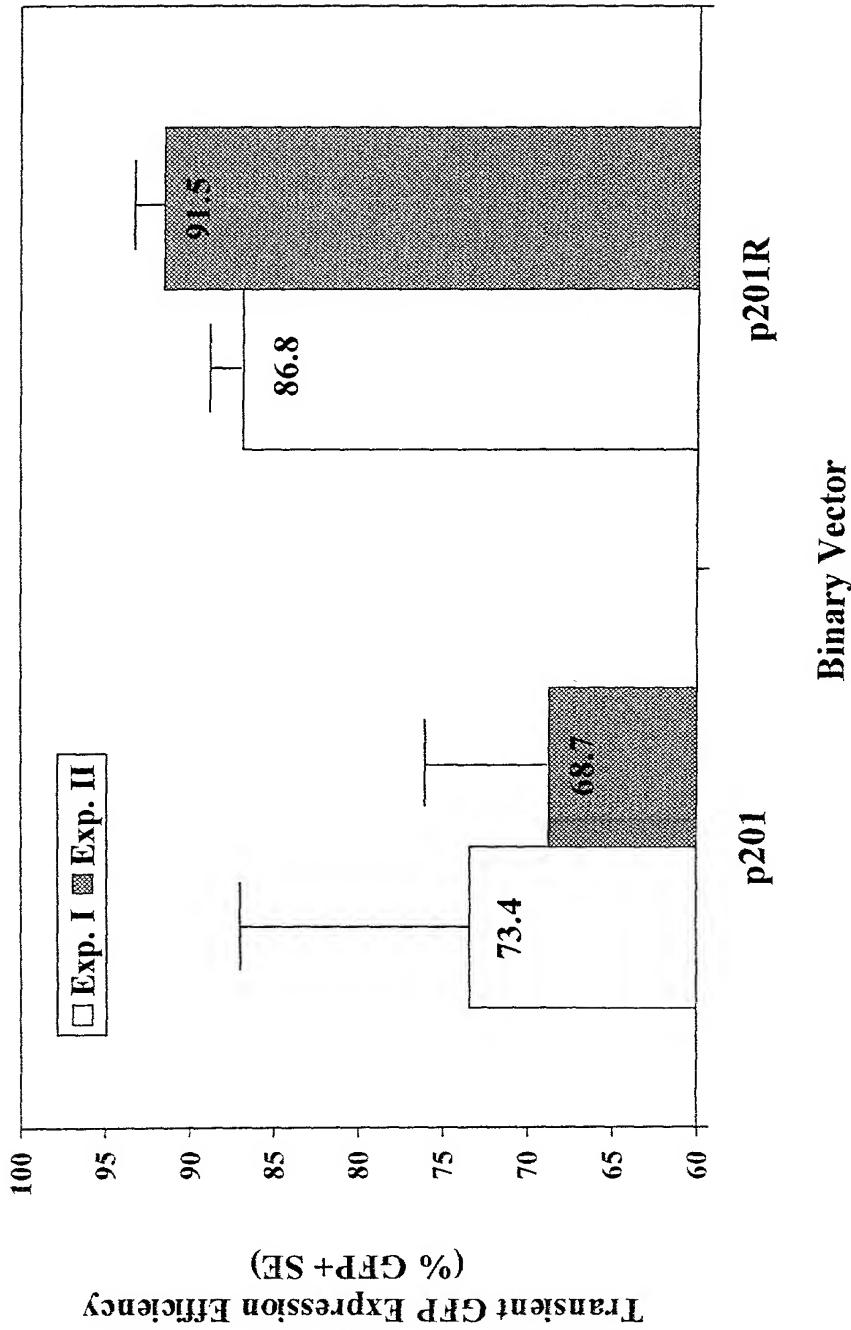
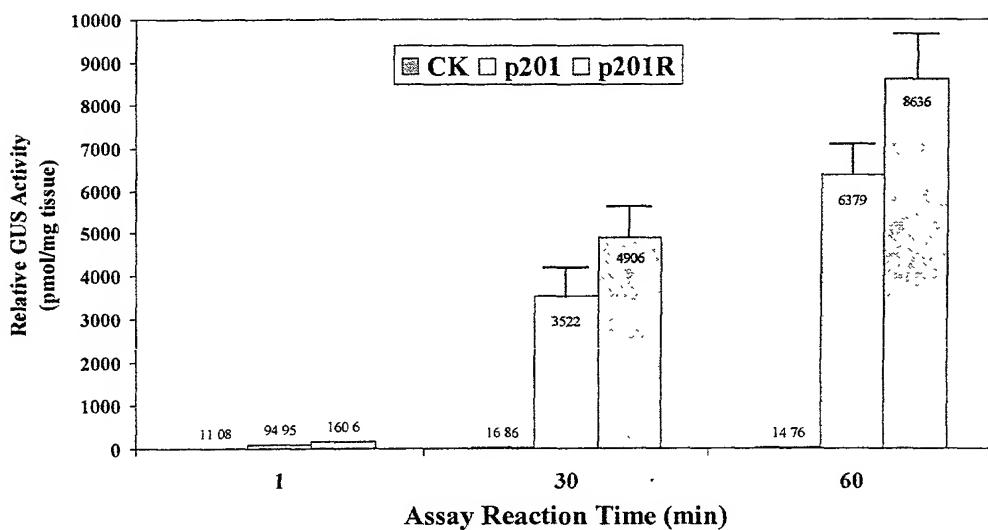
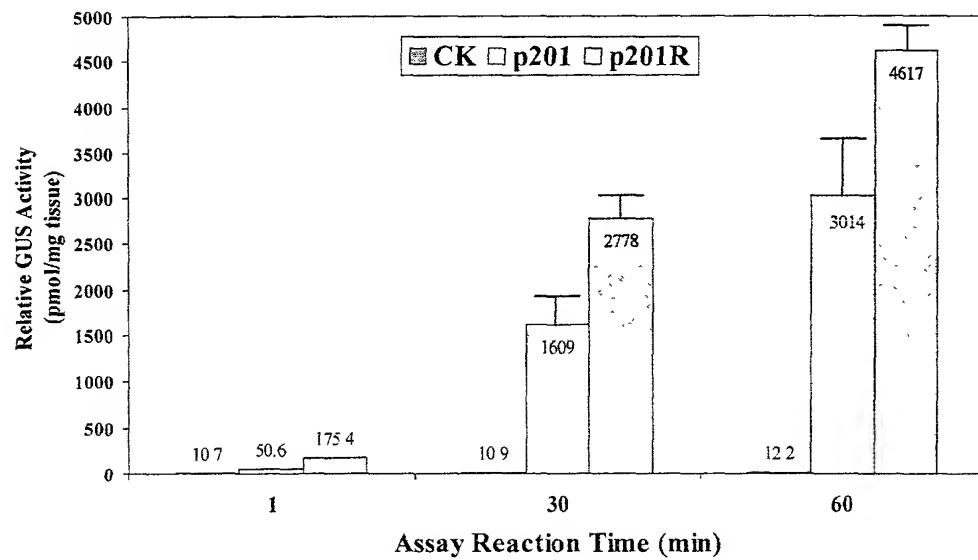


Figure 16. Analysis of GUS Activity in Grape SE (*V. vinifera* cv. Thompson Seedless) after Transformation Using Binary Vectors p201 and p201R

Experiment I



Experiment II



**Figure 17. GFP Expression in SE (A) and Leaf Tissues (B)
of Transgenic Grape (*V. vinifera* cv. Thompson
Seedless) Containing the T-DNA of p201R**

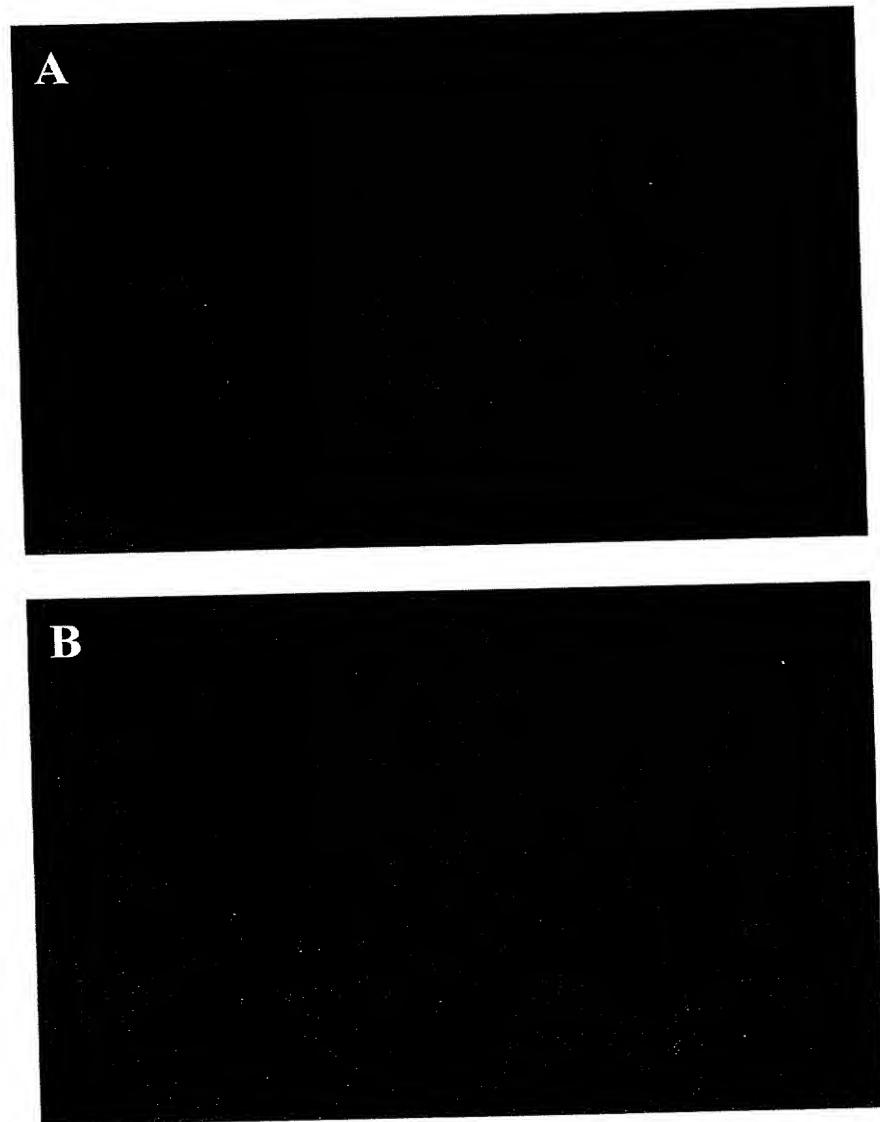


Fig. 18

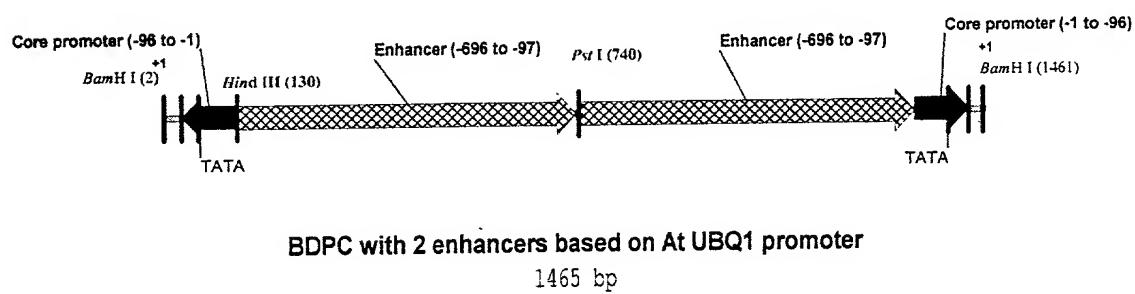


Fig. 19

BamHI

~~~~~  
1 GGATCCCTT TGTGTTCGT CTTCTCAC GTAGAAACCC TAAACAAGGA GGAGGCGGGT TTATATATGT CAATGTACGC  
CCTAGGGAAA ACACAAAGCA GAAGAGAGTG CATCTTGGG ATTTGTTCT CCTCCGCCA AATATATAACA CTTACATGCG

HindIII

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81 GTCTAGGGTT TTGCTAATAT TGGGCTAGGT TACAGGCCTT TACCACAAAA GCTTAGTTGA TAAAATATTT TTATTTGGTT
CAGATCCCA AACGATTATA ACCCGATCCA ATGTCCGGAA ATGGTGTGTT CGAATCAACT ATTTTATAAA ATAACACCAA

161 GTAATTTGT AATATCCCG GATATTCAC AAATTGAACA TAGACTACAG AATTTAGAA AACAAACTTT CTCTCTTAA
CATTAACAA TTATAGGGCC CTATAAAGTG TTTAACCTGT ATCTGATGTC TTAAATCTT TTGTTGAAA GAGAGAGAAT

241 TCTCACCTT ATCTTTAGA GAGAAAAAGT TCGATTCCG GTTGACCGGA ATGTATCTT GTTTTTTTG TTTGTAACA
AGAGTGGAAA TAGAAAATCT CTCTTTCA AGCTAAAGGC CAACTGGCCT TACATAGAAA CAAAAAAAC AAAACATTGT

321 TATTCGTT TCCGATTTAG ATCGGATCTC CTTTCCGTT TTGCGGACC TTCTCCGGT TTATCCGGAT CTAATAATAT
ATAAAGCAAA AGGCTAAATC TAGCCTAGAG GAAAAGGCAA AACAGCCTGG AAGAAGGCCA AATAGGCCTA GATTATTATA

401 CCATCTTAGA CTTAGCTAAG TTTGGATCTG TTTTTGGTT AGCTCTGTC AATGCCCTA TCATCAGCAA GAAGGTGAAA
GGTAGAATCT GAATCGATTC AAACCTAGAC AAAAAACCAA TCGAGAACAG TTAGCGGAGT AGTAGTCGTT CTTCCACTT

481 TTTTGACAA ATAAATCTT GAATCATGTA GTGTCTTGG ACCTTGGAA TGATAGAAC GATTGTTAT AGCTACTCTA
AAAAACTGTT TATTTAGAAT CTTAGTACAT CACAGAAACC TGGAACCCCT ACTATCTTGT CTAACAAATA TCGATGAGAT

561 TGTATCAGAC CCTGACCAAG ATCCAACAAT CTCATAGGT TTGTCATAT GAAACCTCG ACTAACGAGA AGTGGTCTT
ACATAGTCTG GGACTGGTTC TAGGTTGTTA GAGTATCCAA AACACGTATA CTTTGGAAAGC TGATTGCTCT TCACCAGAAA

641 TAATGAGAGA GATATCTAA ATGTTATCTT AAAAGCCCAC TCAAATCTCA AGGCATAAGG TAGAAATGCA AATTGGAAA
ATTACTCTCT CTATAGATTT TACAATAGAA TTTCGGGTG AGTTAGAGT TCCGTATTCC ATCTTACGT TAAACCTT

PstI

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721 GTGGGCTGGG CCTTCTGCAG TTGATAAAAT ATTTTATTT GGTGTAATT TTGTAATATC CCGGGATATT TCACAAATTG  
CACCCGACCC GGAAGACGTC AACTATTTA TAAAATAAA CCAACATTAA AACATTATAG GGCCCTATAA AGTGTAAAC

801 AACATAGACT ACAGAATTAA AGAAAACAAA CTTTCTCTCT CTTATCTCAC CTTTATCTT TAGAGAGAAA AAGTCGATT  
TTGTATCTGA TGTCTAAAA TCTTTGTTT GAAAGAGAGA GAATAGAGTG GAAATAGAAA ATCTCTT TTCAAGCTAA

881 TCCGGTTGAC CGGAATGTAT CTTGTTTTT TTTGTTGT AACATATTC GTTTCCGAT TTGATCGGA TCTCCTTTTC  
AGGCCAACTG GCCTTACATA GAAACAAAAAA AAACAAACAA TTGTATAAAAG CAAAAGGCTA AATCTAGCCT AGAGGAAAG

961 CGTTTGTGCG GACCTCTTC CGGTTTATCC GGATCTAATA ATATCCATCT TAGACTTAGC TAAGTTGGA TCTGTTTTT  
GCAAACAGC CTGGAGAACAG GCCAAATAGG CCTAGATTAT TATAGTAGA ATCTGAATCG AITCAAACCT AGACAAAAAA

1041 GGTTAGCTCT TGTCAATCGC CTCATCATCA GCAAGAAGGT GAAATTTTG ACAAAATAAT CTTAGAATCA TGTAGTGTCT  
CCAATCGAGA ACAGTAGCG GAGTAGTAGT CGTTCTCCA CTTAAACAC TGTGTTATTAA GAATCTTAGT ACATCACAGA

1121 TTGGACCTTG GGAATGATAG AAACGATTTG TTATAGCTAC TCTATGTATC AGACCCGTAC CAAGATCCAA CAATCTCATA  
AACCTGGAAC CCTTACTATC TTTGCTAAAC AATATCGATG AGATACATAG TCTGGACTG GTTCTAGGTT GTTAGAGTAT

1201 GGTTTGTGC ATATGAAACC TTCGACTAAC GAGAAGTGGT CTTTAATGA GAGAGATATC TAAAATGTTA TCTTAAAGC  
GCAAACACCG TATACTTGG AAGCTGATTG CTCTTCACCA GAAAATTACT CTCTCTATAG ATTTTACAAT AGAATTTCG

1281 CCACTCAAAT CTCAAGGCAT AAGGTAGAAA TGCAAATTG GAAAGTGGGC TGGGCCTTT GTGGTAAAGG CCTGTAACCT  
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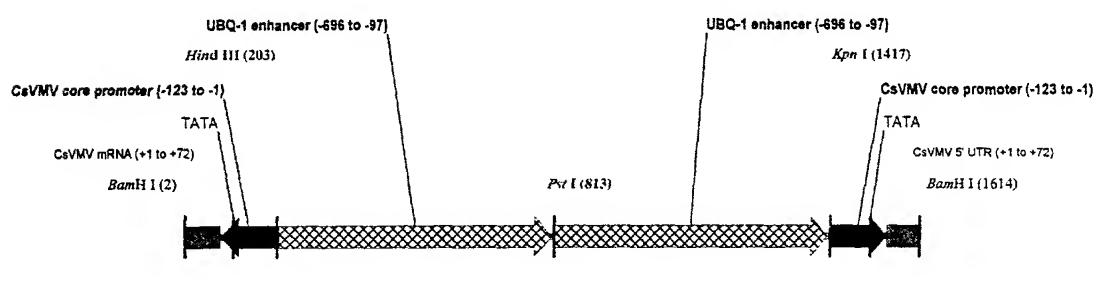
1361 AGCCCAATAT TAGAAAACC CTAGACGCGT ACATTGACAT ATATAAACCC GCCTCCTCCT TGTTAGGGT TTCTACGTGA  
TCGGGTTATA ATCGTTTG GATCTGCGCA TGTAAGTGA TATATTTGGG CGGAGGAGGA ACAAATCCC AAGATGCACT

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BamHI

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1441 GAGAAGACGA AACACAAAAG GATCC Seq. ID No. 13
CTCTTCTGCT TTGTGTTTC CTAGG Seq. ID No. 14

Fig. 20



Heterologous BDPC with 2 UBQ-1 enhancers and 2 CsVMV core promoters

1618 bp

Fig. 21

BamHI

1 GGATCCACAA ACTTACAAAT TTCTCTGAAG TTGTATCCTC AGTACTTCAG AGAAAATAGC TTACACCAAA TTTTTCTTG
CCTAGGTGTT TGAATGTTA AAGAGACTTC AACATAGGAG TCATGAAGTT TCTTTATCG AATGTGGTTT AAAAAAGAAC

81 TTTCACAAA TGCGAACTT GGTCCTTAT ATAGGAAAC TCAAGGGCAA AAATGACACG GAAAATATA AAAGGATAAG
AAAAGTGTGTT ACGGCTTGAA CCAAGGAATA TATCCTTTG AGTCCCCTT GTACTGTGC CTTTTATAT TTTCTATTG

HindIII

161 TAGTGGGGTAAGATTCTT TTGTGATAAG GTTACTTCC GAAGCTTAGT TGATAAAAATA TTTTTATTTG GTGTAAATT
ATCACCCCCCT ATTCTAAGGA AACACTATTCA CAATGAAAGG CTTCGAATCA ACTATTTAT AAAAATAAAC CAACATTAAA

241 TGTAATATCC CGGGATATT CACAAATTGA ACATAGACTA CAGAATTAA GAAAACAAAC TTTCTCTCTC TTATCTCAC
ACATTATAGG GCCCTATAAA GTGTTAACT TGTATCTGAT GTCTTAAAT CTTTGTTG AAAGAGAGAG AATAGAGTGG

321 TTTATCTTT AGAGAGAAAA AGTCGATT CCGGTTGACC GGAATGTATC TTTGTTTTT TTGTTTGTA ACATATTCG
AAATAGAAAA TCTCTTTT TCAAGCTAA GGCAACTGG CCTACATAG AAACAAAAAA AACAAACAT TGTATAAACG

401 TTTCCGATT TAGATCGGAT CTCTTTTCC GTTTGTCGG ACCTCTTCC GGTTTATCCG GATCTAATAA TATCCATCTT
AAAAGGCTAA ATCTAGCCTA GAGGAAAGG CAAAACAGCC TGGAGAAGG CCAAATAGGC CTAGATTATT ATAGGTAGAA

481 AGACTTAGCT AAGTTGGAT CTGTTTTTG GTTAGCTCTT GTCAATCGCC TCATCATAG CAAGAAGGTG AAATTTTG
TCTGAATCGA TTCAACCTA GACAAAAAAC CAATCGAGAA CAGTTAGCGG AGTAGTAGTC GTTCTCCAC TTTAAAAACT

561 CAAATAAACAT TTAGAATCAT GTAGTGTCTT TGGACCTGG GAATGATAGA AACGATTGT TATAGCTACT CTATGTATCA
GTTTATTTAG AATCTTAGTA CATCACAGAA ACCTGGAACC CTTACTATCT TTGCTAAACA ATATCGATGA GATACATAGT

641 GACCCCTGACC AAGATCCAAC AATCTCATAG GTTTGTCGA TATGAAACCT TCGACTAACG AGAAGTGGTC TTTAATGAG
CTGGGACTGG TTCTAGGTTG TTAGAGTATC CAAAACACGT ATACTTGGAG AGCTGATTG TCTTCACCAG AAAATTACTC

721 AGAGATATCT AAAATGTTAT CTAAAAGCC CACTCAAATC TCAAGGCATA AGGTAGAAAT GCAAATTGG AAAGTGGGCT
TCTCTATAGA TTTTACAATA GAATTTGCGG GTGAGTTAG AGTCCGTAT TCCATCTTA CGTTAAACC TTTCACCCGA

PstI

801 GGGCTTCTG CAGTTGATAA AATATTTTA TTTGGTTGTA ATTTGTAAT ATCCCGGAT ATTCACAAAT TTGAACATAG
CCCGGAAGAC GTCAACTATT TTATAAAAT AAACCAACAT TAAACATTA TAGGCCCTA TAAAGTGGTTT AACTGTATC

881 ACTACAGAAAT TTAGAAAAC AAACCTTCTC TCTCTTATCT CACCTTATC TTTAGAGAG AAAAAGTTCG ATTCGGGTT
TGATGTCTTA AAATCTTTG TTGAAAGAG AGAGAATAGA GTGAAATAG AAAATCTCTC TTTTCAAGC TAAAGGCCAA

961 GACCGGAATG TATCTTGTGTT TTTTTGTTT TGTAACATAT TTGTTTCC GATTTAGATC GGATCTCCTT TTCCGTTTG
CTGGCCTTAC ATAGAAACAA AAAAACACAA ACATGTATA AAGCAAAGG CAAATCTAG CCTAGAGGAA AAGCAAAAC

1041 TCGGACCTTC TTCCGGTTA TCCGGATCTA ATAATATCCA TCTAGACTT AGCTAAGTT GGATCTGTTT TTGGTTAGC
AGCCTGGAAAG AAGGCCAAAT AGGCTAGAT TATTATAGGT AGAATCTGAA TCGATTCAA CCTAGACAAA AAACCAATCG

1121 TCTTGTCAAT CGCCTCATCA TCAGCAAGAA GGTGAAATTT TTGACAAATA AATCTTAGAA TCATGTAGTG TCTTGGACC
AGAACAGTTA GCGGAGTAGT AGTCGTTCTT CCACTTAAA AACTGTTAT TTGAAATCTT AGTACATCAC AGAACACTGG

1201 TTGGGAATGA TAGAAACGAT TTGTTATAGC TACTCTATGT ATCAGACCCCT GACCAAGATC CAACAACTC ATAGGTTTG
AACCTTACT ATCTTGCTA AACAAATATCG ATGAGATACA TAGTCTGGGA CTGGTTCTAG GTTGGTAGAG TATCCAAAC

1281 TGCATATGAA ACCTTCGACT AACGAGAAGT GGTCTTTAA TGAGAGAGAT ATCTAAATG TTATCTAAA AGCCCACTCA
ACGTATACTT TGGAAGCTGA TTGCTCTCA CCAGAAAATT ACTCTCTCTA TAGATTTAC AATAGAATT TCAGGGTGAGT

KpnI

1361 AATCTCAAGG CATAAGGTAG AAATGCAAAT TTGGAAAGTG GGCTGGGCCT TGGTACCCGG AAAGTAACCT TATCACAAAG
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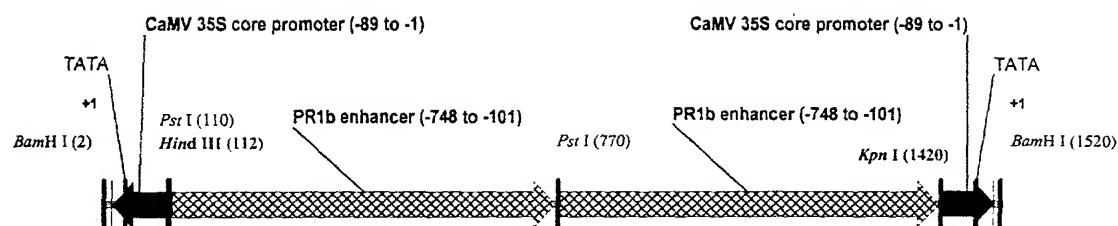
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CTTAGAATAG GGGGTGATGA ATAGGAAAAT ATAAAAAGGC ACAGTAAAAA CGGGAACTCA AAAGGATATA TTCCTTGGTT

1521 GTTCGGCATT TGTGAAAACA AGAAAAAATT TGGTGTAAGC TATTTCTTT GAAGTACTGA GGATACAAC TCAGAGAAAAT
CAAGCCGTAA ACACTTTGT TCTTTTTAA ACCACATTG ATAAAAGAAA CTTCATGACT CCTATGTTGA AGTCTCTTTA

BamHI

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1601 TTGTAAGTTT GTGGATCC Seq. ID No. 15  
AACATTCAAA CACCTAGG Seq. ID No. 16

Fig. 22



**Heterologous BDPC with 2 PR1b enhancers and 2 CaMV 35S core promoters**

1524 bp

Fig. 23

BamHI

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1 GGATCCAGCG TGCCCTCTCC AAATGAAATG AACTTCCCTA TATAGAGGAA GGGTCTGCG AAGGATAGTG GGATTGTGCG CCTAGGTGCG ACAGGAGAGG TTTACTTTAC TTGAAGGAAT ATATCTCCTT CCCAGAACGC TTCTATCAC CCTAACACGC

PstI HindIII

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81 TCATCCCTTA CGTCAGTGG AACTGCAG AAGCTCAGA CTCATTAAC TAAAAGAAGA TATAGACTCA TAACTTAAA AGTAGGGAAT GCAGTCACCT CTATGACGTC TTCGAAGTCT GAGTAATTGA ATTTTCTTCT ATATCTGAGT AATTGAATT

161 AGAAGATATA GATTCCAACA CAAGTTCAA ATTCAAAAC GTCAATCTTG GCTAAATTTC TGAAACATCAA TGCATTCCCT TCTTCTATAT CTAAGGTTGT GTTCAAGTT TAAGTATTG CAGTTAGAAC CGATTAAAG ACTTGTAGTT ACGTAAGGAA

241 TAAAATATAG ATAATAAGTT AGGATGTTGT CACTTCTTA AAGCATATTG CGACTGAGTC TGGTAGAATC TCATAAACCT ATTTTATATC TATTATTCAA TCCTACAACA GTGAAAGAAT TTCGTATAAG GCTGACTCAG ACCATCTTAG AGTATTTGAA

321 TAGGCCTTAT CTCTCAATT AGGCAATTAC TTACCTCCGC TCTACTTTAA GAAAATTCAA TGGAGTACAC CATTATTAAG ATCCGGAATA GAGAAGTTAA TCCGTTAATG AATGGAGGCG AGATGAAATT CTTTTAAGTT ACCTCATGTG GTAATAATTC

401 TTCATATAAA AATAAAATTA TATTAATTCT GTCTCTGTT GGTTCGCTCT ATCTTTTCT GTTTCTGC TTCAACCATA AAGTATATT TTATTTAAT ATAATTAAGA CAGAGAACAA CCAAGCGAGA TAGAAAAAGA CAAAAGGACG AAGTTGGTAT

481 ACATATACAA GAACTACATT TTCCAAGCTA GATATATCTA ACATGACTGA CTTTGAAAT TTCTTTGCC AAGTTAAAGA TGTATATGTT CTTGATGTA AAGGTTGAT CTATATAGAT TGACTGACT GAAACATTAA AAGAAAACGG TTCAATTCT

561 AAAAAATGA TGTTATCAA ATAATAAGA GAAAGAGCCC TAATGAAAAA AATGATTAC TATTAGAGTT GTTCAGCTAA TTTTTTACT ACAATAGGTT TATTATTCT CTTCTCGGG ATTACTTTT TTACTAAATG ATAATCTCAA CAAGTCGATT

641 TCACATCAAT TATGGTTTC ATCAAGTATG ACTAATGGCG GCTCTTATCT CACGTGATGT GACATTGAAA TTCTTGACT AGTGTAGTTA ATACCAAAAG TAGTTCATAC TGATTACCGC CGAGAATAGA GTGCACTACA CTGTAACCTT AAGAAAATGA

PstI

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721 TTAACACTAA TGTCATATGC TTTCAAATTAA ATAATCCGAT AAAGCTGCG ACTCATTAAAC TAAAAGAAG ATATAGACTC AATTGTGATT ACAGTATACG AAAGTTAAAT TATTAGGCTA TTTCGACGTC TGAGTAATTG AATTTCTTC TATATCTGAG

801 ATTAACTTAA AAGAAGATAT AGATTCCAAC ACAAGTTCAA AATTCAAAAC GTCAATCTT GGCTAAATTCT CGAACATCA TAATTGAATT TTCTCTATA TCTAAGGTTG GTTCAAGTT TTAAGTATT GCAGTTAGAA CCGATTAAAG GACTTGTAGT

881 ATGCATTCCCT TAAAATATA GATAATAAGT TAGGATGTTG TCACTTTCTT AAAGCATATT CGCACTGAGT CTGGTAGAAT TAGTAAAGGA AATTATATC TCTTACAC AGTGAAGAA TTTCGTATAA GGCTGACTCA GACCATCTTA

961 CTCATAAACT TTAGGCCTTA TCTCTCAAT TAGGCAATTAA CTTACCTCCG CTCTACTTTA AGAAAATTCA ATGGAGTACA GAGTATTGAA AATCCGGAAT AGAGAAGTTA ATCCGTTAAT GAATGGAGGC GAGATGAAAT TCTTTAAGT TACCTCATGT

1041 CCATTATTAA GTTCATATAA AAATAAAATT ATATTAATTG TGTCTCTTGT GGTTCGCTC TATCTTTTC TGTTTCTCG GGTAATAATT CAAGTATATT TTTATTTAA TATAATTAAG ACAGAGAACAA ACCAAGCGAG ATAGAAAAG ACAAAGGAC

1121 CTTCAACCAC AACATATACA AGAACTACAT TTTCCAAGCT AGATATATCT AACATGACTG ACTTTGTAAA TTTCTTTGC GAAGTTGGTA TTGTATATGT TCTTGATGTA AAAGGTTGCA TCTATATAGA TTGTACTGAC TGAAACATT AAAGAAAACG

1201 CAAGTTAAAG AAAAAAAATG ATGTTATCCA AATAATAAG AGAAAGAGCC CTAATGAAA AAATGATTAA CTATTAGAGT GTTCAATTTC TTTTTTAC TACAATAGGT TTATTATTTC TCTTCTCGG GATTACTTT TTTACTAAAT GATAATCTCA

1281 TGTTCAAGCTA ATCACATCAA TTATGGTTT CATCAAGTAT GACTAATGGC GGCTCTTATC TCACGTGATG TGACATTGAA ACAAGTCGAT TAGTGTAGTT AATACCAAAAG TAGTTCATA CTGATTACCG CCGAGAATAG AGTGCACTAC ACTGTAACCT

KpnI

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1361 ATTCTTGAC TTTAACACTA ATGTCATATG CTTTCAAATT AATAATCCGA TAAAGGTACC TATCTCCACT GACGTAAGGG  
TAAGAAA<sup>C</sup>TG AAATTGTGAT TACAGTATAAC GAAAGTTAA TTATTAGGCT ATTTCCATGG ATAGAGGTGA CTGCATTCCC

BamHI

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1441 ATGACGCACA ATCCC<sup>A</sup>CTAT CCTTCGCAAG ACCCTTCCTC TATATAAGGA AGTTCAT<sup>T</sup>TC ATTTGGAGAG GACACGCTGG  
TACTGCGTGT TAGGGTGATA GGAAGCGTTC TGGGAAGGAG ATATATTCC<sup>T</sup>T TCAAGTAAAG TAAACCTCTC CTGTGCGACC

BamH

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1521 ATCC Seq. ID No. 17
TAGG Seq. ID No. 18

Figure 24 . Physical Map of T-DNA Region of CaMV 35S Promoter-derived Binary Vectors Containing a BDPC

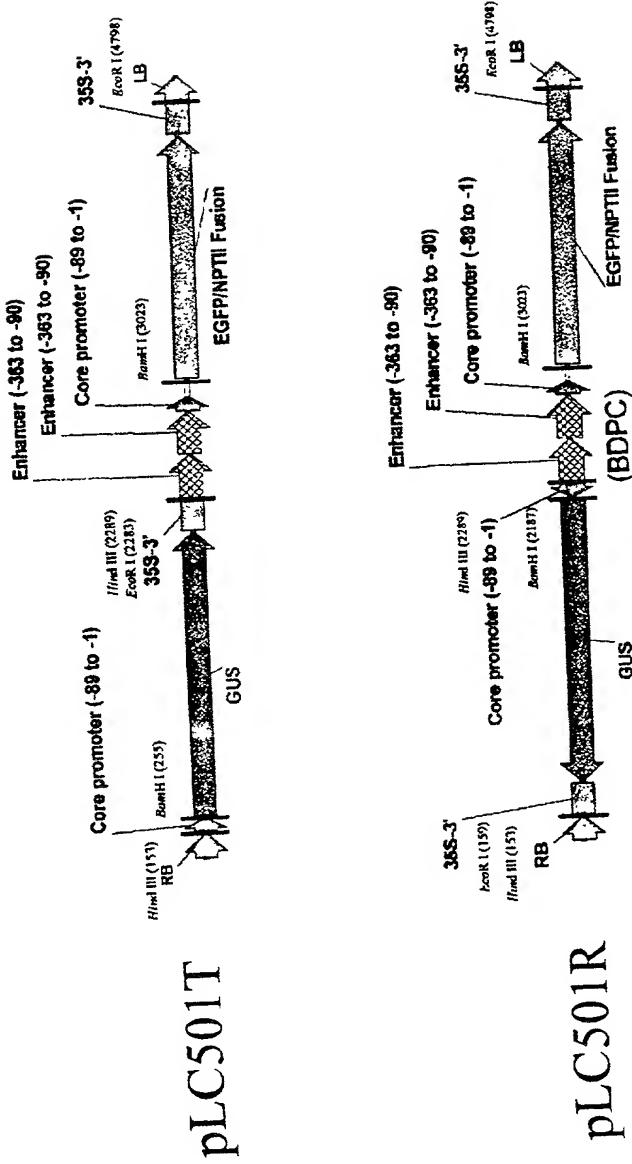


Figure 25. Analysis of GUS Activity in Grape SE (*V. vinifera* cv. Thompson Seedless) after Transformation Using Three Binary Vectors

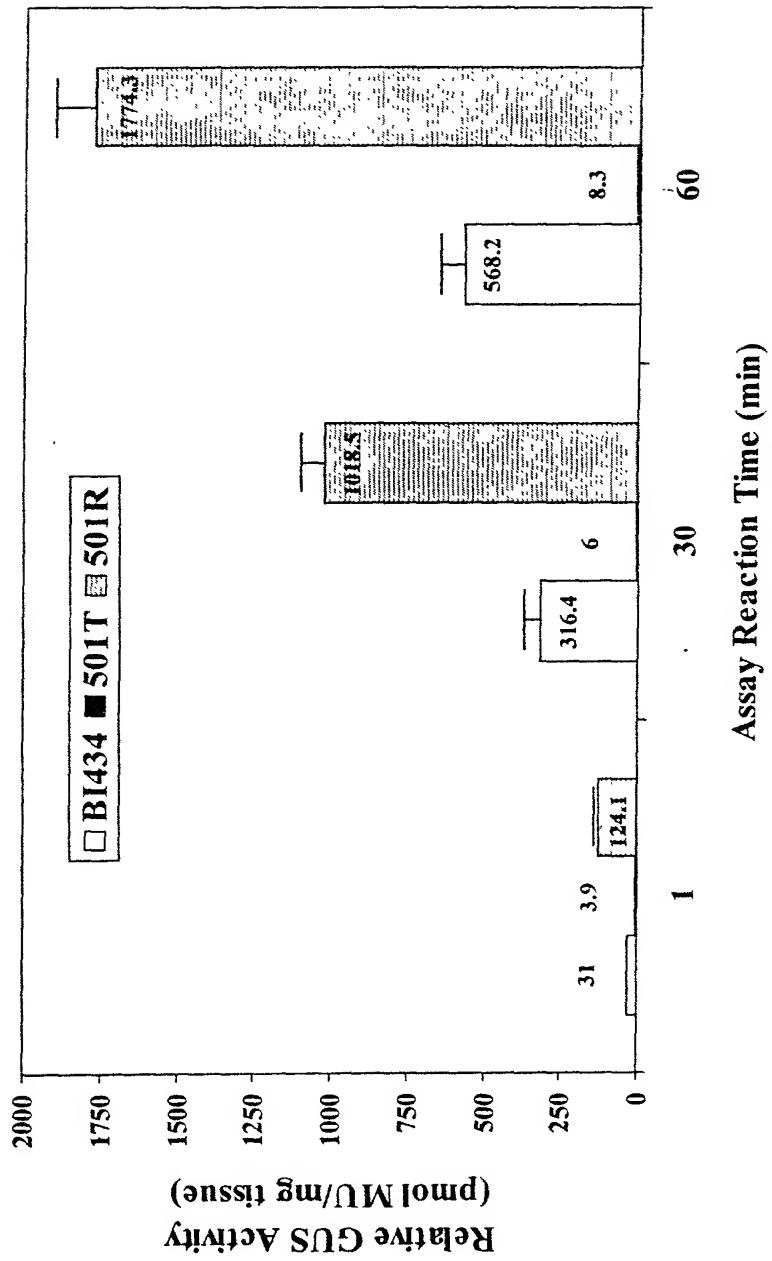


Figure 26. Physical Map of T-DNA Region of Transformation Vectors with 4-Enhancer-Containing BDPs.

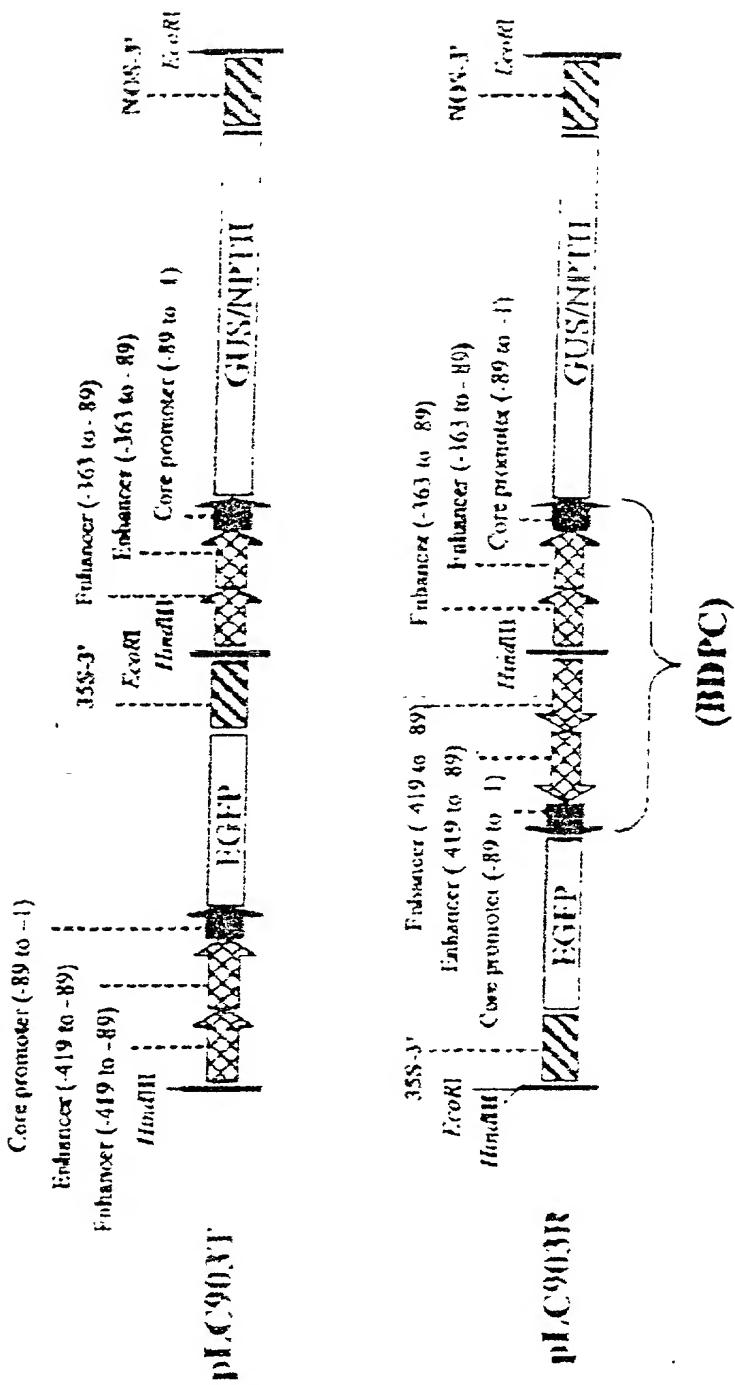


Figure 27. Analysis of GUS Activity in SE (*V. vinifera* cv. Thompson Seedless) after transformation Using Three Binary Vectors

